

Please delete the paragraphs beginning on page 6 at line 3 and ending on page 6 at line 13, and replace with the following replacement paragraphs:

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Because fuel system interface 36 acts on both fuel metering head regulator or fuel bypass valve 46 and normal fuel shut off valve 44, rotor over-speed protection is provided via parallel redundant fuel cut-off devices using fuel metering devices 50 that are used for normal engine operation. For example, parallel redundant fuel metering devices 50 enable fuel system interface to receive electrically and mechanically originated overspeed signals.

Priority logic table 38 illustrates the conditions under which engine fuel flow may be initiated in light of the various combinations of signals affecting speed sensing system 40 ("Overspeed Signal"), aircraft control shutoff valve 70 ("Aircraft Signal") and shutoff shuttle valve 48 ("Normal Engine Control Signal"). More specifically, priority logic table 38 provides that when fuel system interface 36 is activated, as a result of receiving an over-speed indication 74 from speed sensing system 40, fuel flow can only be initiated when the over-speed indication is removed.

REMARKS

The Office Action mailed May 29, 2003, has been carefully reviewed and the following remarks have been made in consequence thereof. Submitted herewith is a Submission of Marked Up Paragraphs.

Claims 1-3, 5-9, 11-16, and 18 are now pending in this application. Claims 1-3, 5-9, 11-16, and 18 stand rejected.

The objection to the drawings under 37 C.F.R. 1.83(a) is respectfully traversed. Applicant respectfully submits that every feature of the invention as recited in the claims is illustrated in the Figures. More specifically, and with respect to the structure of Claim 1 for example, Figure 2 illustrates fuel system interface 36 receiving an electrically-originated overspeed signal from an independent speed sensing system 40. Figure 4 illustrates that the same fuel system interface 36 may receive a mechanically-originated overspeed signal from an independent speed sensing system 102. Accordingly, as recited in Claim 1, Applicant submits that a fuel system interface that receives electrically and mechanically originated overspeed signals is illustrated. For the reasons set forth above, Applicant respectfully requests the objection to the drawings be withdrawn.

The rejection of Claims 1-3, 5-9, 11-16, and 18 under 35 U.S.C. § 112, first paragraph, is respectfully traversed. Applicant respectfully submits that one of ordinary skill in the art, after reading the specification in view of the Figures, would agree that the subject matter in the specification is described in such a manner as to reasonably convey that the Applicant had possession of the claimed invention, at the time the application was filed. Furthermore, Applicant submits that the specification as originally filed, does describe a fuel system interface which receives electrically and mechanically originated over-speed signals. More specifically, as is well established, "the Claims as filed in the original specification are part of the disclosure...the applicant may amend the specification to include the claimed subject matter." In re Benno, 226 USPQ 683 (Fed. Cir. 1985). MPEP 2163.06

Claim 1, as originally filed, recited a method for assembling a gas turbine engine to prevent rotor over-speeding, wherein the method comprised "coupling a fuel system interface to the gas turbine engine such that the fuel system interface receives electrically and mechanically originated over-speed signals inputted from the engine...." The detailed description portion of the specification has been amended to more clearly describe that the fuel system interface illustrated in Figure 2 is the same fuel system interface illustrated in Figures 4 and 5, with the only difference being which speed sensing system coupled to the fuel system interface is illustrated.

Accordingly, Applicant respectfully submits that one of ordinary skill in the art, after reading the specification in light of the Figures, would understand that the same fuel system interface is illustrated in Figures 2, 4, and 5, and as such, would then understand the fuel system interface as recited in the Claims, including the interaction between the fuel system interface and the electrical and mechanical originated overspeed signals.

Furthermore, Applicant respectfully disagrees with the assertion in the Office Action that one of ordinary skill in the art would not know "how the electrical and mechanical speed sensors would operate in conjunction with each other, and how they would interface with the fuel control system." The Federal Circuit has opined in *Verve LLC v. Crane Cams, Inc.*, 65 USPQ 2d 1051, 1053-1054 (Fed. Cir. 2002), that "[p]atent documents are written for persons familiar with the relevant field; the patentee is not required to include in the specification information readily understood by practitioners, lest every patent be written as a comprehensive tutorial and treatise for the generalist, instead of a concise statement for persons in the field." In the present case, Applicant respectfully submits that the specification

is complete and that one skilled in the art would understand how the fuel system interface receives electrically and mechanically originated over-speed signals. In addition, Applicant also submits that one of ordinary skill in the art would not need to understand how the electrical and mechanical speed sensors would operate in conjunction with each other, as the invention is not directed towards the interaction of the electrical and mechanical speed sensors, but rather is directed towards a fuel system interface that receives electrically and mechanically originated over-speed signals from the engine.

In addition, Applicant respectfully submits that the Section 112 rejections of Claims 1-3, 5-9, 11-16, and 18 is improper, as no express findings of fact which support the lack of written description conclusion have been presented to Applicant. MPEP 2163.04. In addition, Applicant respectfully disagrees with the assertion in the Office Action that the specification, for example, at page 6, line 15, only supports one overspeed signal. Rather, Applicant submits that one of ordinary skill in the art would recognize that the priority logic table illustrated in Figure 3 illustrates conditions under which engine fuel flow may be initiated based on the various combinations of signals shown in Figure 3. Moreover, “resolution of any ambiguity may be aided by extrinsic evidence of usage and meaning of a term in the context of the invention” such that the determining factor regarding the meaning of a term, is “how the phrase would be understood by persons experienced in the field...upon reading the patent documents.” As such, Applicant respectfully submits that an artisan of ordinary skill in the art would recognize that within the priority logic table, various operating combinations are shown which include an overspeed signal, and that the phrase “fuel flow can only be initiated when the overspeed indication is removed” refers to various operating conditions that must be satisfied prior to fuel flow being initiated.

Accordingly, for at least the reasons set forth above, Applicant requests the Section 112, first paragraph, rejections of Claims 1-3, 5-9, 11-16, and 18 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Robert B. Reeser III', is written over a horizontal line.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Applicant: Linebrink

Serial No.: 09/687,886

Filed: October 13, 2000

For: METHODS AND APPARATUS FOR ROTOR
OVER-SPEED PROTECTION

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: Art Unit: 3746
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: Examiner: Koczo Jr., M.
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Sir:

Below are marked up Paragraphs in accordance with 37 C.F.R. Section 1.121(b)(1)(ii).

IN THE SPECIFICATION

Please delete the paragraph beginning on page 2 at line 12 and ending on page 2 at line 21, and replace with the following replacement paragraph:

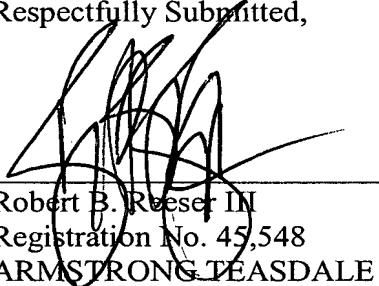
The fuel system interface includes a shutoff shuttle valve that, in operation, stops fuel flow to the engine to prevent the rotor from over-speeding when an over-speed condition is sensed by the independent sensing system. Because the fuel system interface uses selector valves, rapid signal selection is facilitated within the fuel system interface regardless of a physical proximity of the over-speed sensing system to the fuel system interface shutoff shuttle valve. Furthermore priority logic utilized by the over-speed system provides that when the fuel system interface is activated during over-speed conditions, fuel flow can only be initiated when [the over-speed] each signal indicative of an over-speed condition is removed.

Please delete the paragraphs beginning on page 6 at line 3 and ending on page 6 at line 13, and replace with the following replacement paragraphs:

Because fuel system interface 36 acts on both fuel metering head regulator or fuel bypass valve 46 and normal fuel shut off valve 44, rotor over-speed protection is provided via parallel redundant fuel cut-off devices using fuel metering devices 50 that are used for normal engine operation. For example, parallel redundant fuel metering devices 50 enable fuel system interface to receive electrically and mechanically originated overspeed signals.

Priority logic table 38 illustrates the conditions under which engine fuel flow may be initiated in light of the various combinations of signals affecting speed sensing system 40 ("Overspeed Signal"), aircraft control shutoff valve 70 ("Aircraft Signal") and shutoff shuttle valve 48 ("Normal Engine Control Signal"). More specifically, priority logic table 38 provides that when fuel system interface 36 is activated, as a result of receiving an over-speed indication 74 from speed sensing system 40, fuel flow can only be initiated when the over-speed [signal] indication is removed.

Respectfully Submitted,



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